

MAGICARD PRINTER

INSTRUCTIONS FOR REPLACEMENT OF PRINthead AND PRINthead ASSEMBLIES

WARNING - The *Magicard* colour printer contains hazardous voltages.

CAUTION - The following procedures involve contact with Electrostatic Sensitive Devices. All Precautions for handling Electrostatic Sensitive Devices should be followed at all times, including the use of a grounded wrist strap.

HOW TO USE THESE INSTRUCTIONS

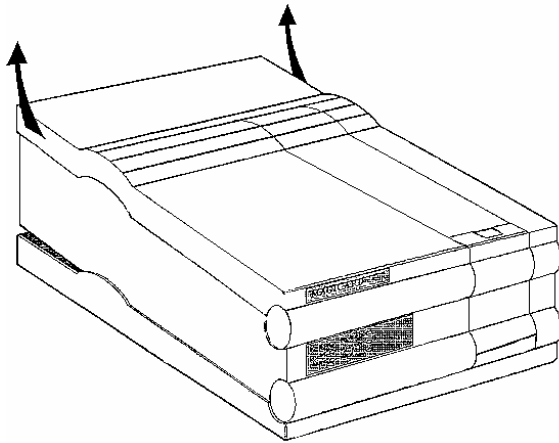
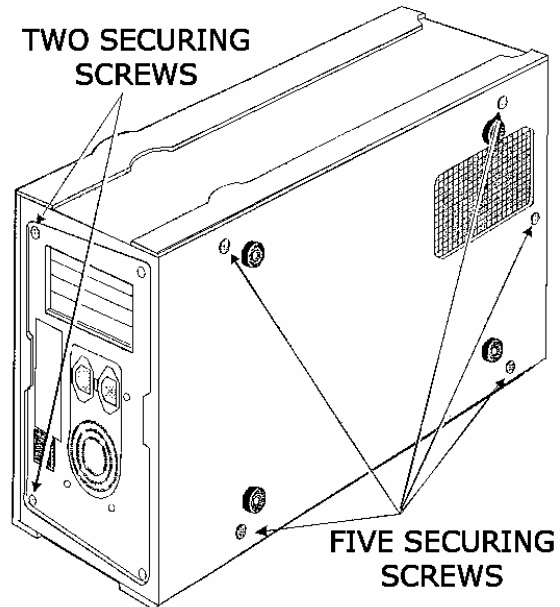
The following procedures are intended to be used for replacement of Magicard Thermal Printheads and Magicard Thermal Printhead Assemblies.

If replacing a Thermal Printhead Assembly do NOT carry out those parts of this document written in *italics* . These procedures, for head angle adjustment, require some previous Magicard product training or experience, and must not be undertaken by end users. Therefore end users are supplied with replacement Printhead Assemblies, which have already been adjusted for correct head angle.

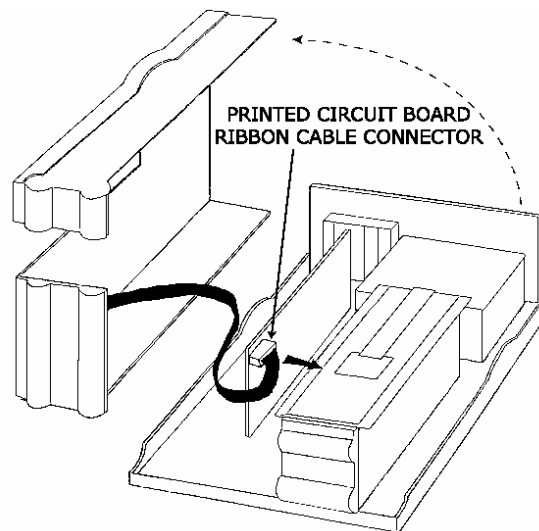
1. (a) Removing the cover Magicard 300 and Sprinter models.

(1) Set the printer On/Off switch to off(0) and isolate from the mains supply. Remove the card cassette and Dye-Film from the printer.

(2) Position the printer on its side with the rear of the printer facing towards you and remove the five securing screws from the base of the printer plus the two at the rear of the printer.



(3) Place the printer on its base with the front of the printer facing towards you.

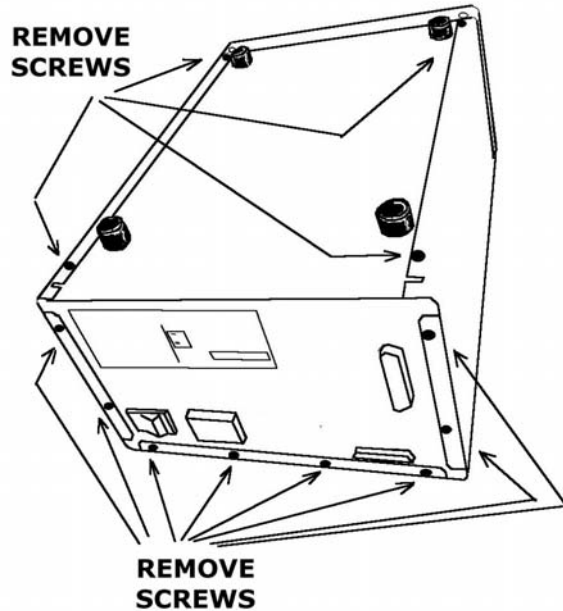
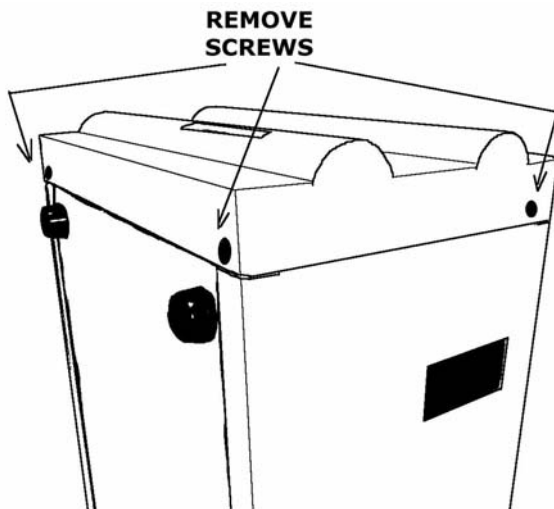


(4) Lift the printer cover from the rear and carefully remove it from the printer taking care not to strain the ribbon cable connection from printer circuit board PL8, and place the cover aside.

1. (b) Removing the cover Magicard Turbo models.

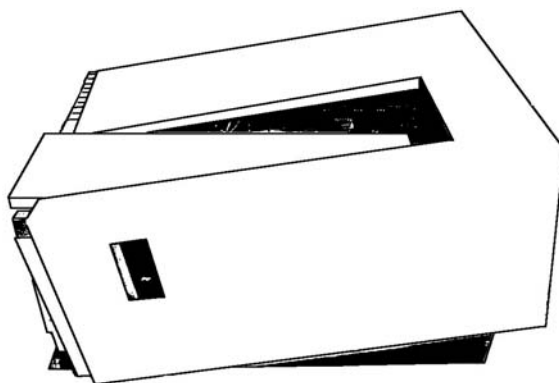
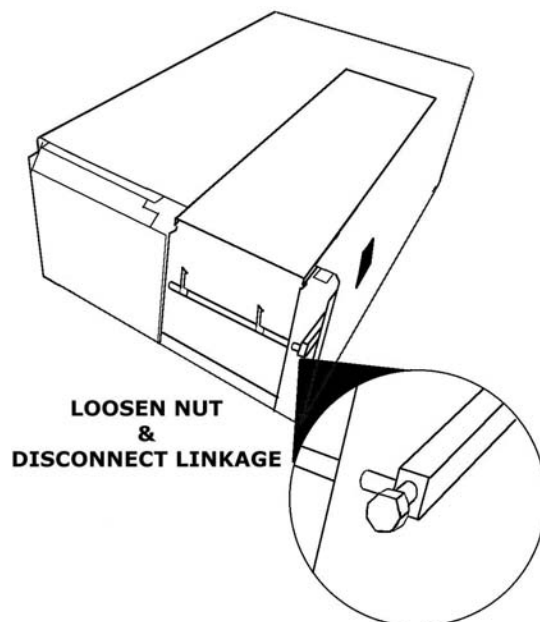
(1) Set the printer On/Off switch to Off(O) and isolate from the mains supply. Remove the card cassette and the Dye-Film from the printer.

(2) Position the printer upside down with the rear of the printer facing towards you and remove the four securing screws from the base of the printer plus the eight at the rear of the printer.



(3) Position the printer with the front panel facing upwards. Remove the two screws from the underside of the front panel and remove the two screws from the top left and top right of the front panel.

(4) Turn the printer back onto its base and lift off the front cover. Using an M4 spanner loosen the bolt at the right hand end of the Door Locking Shaft and disconnect the operating lever from the shaft.

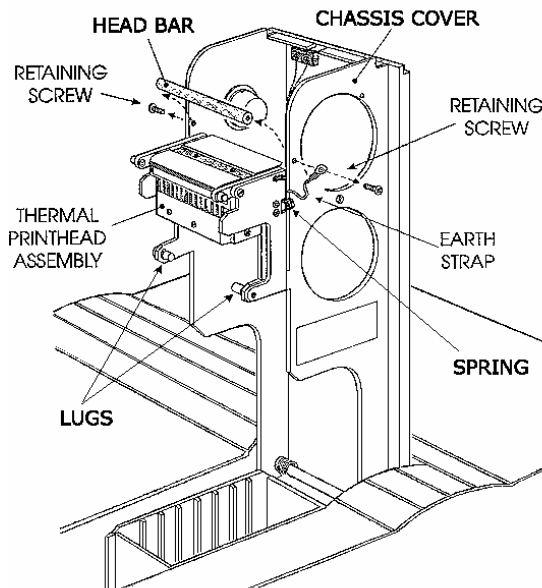
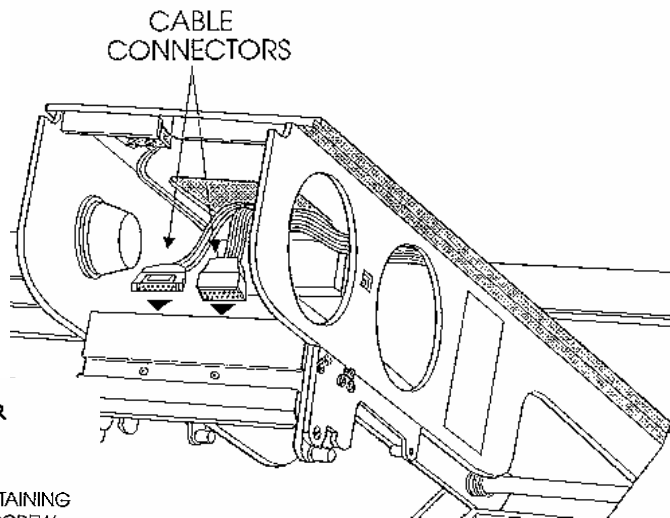


FLEX OUT SIDES OF CASE AND LIFT AWAY

(5) Flex out the sides of the cover and lift it carefully away.

2. Removing old printhead/assembly

- (1) Remove the dye-film and dye-film carrier from the printer.
- (2) If a tie-wrap is fitted to the grey ribbon cable plug on the back of the printhead, cut this tie-wrap taking great care not to cut the ribbon cable itself.
- (3) Disconnect both cables from the printhead.



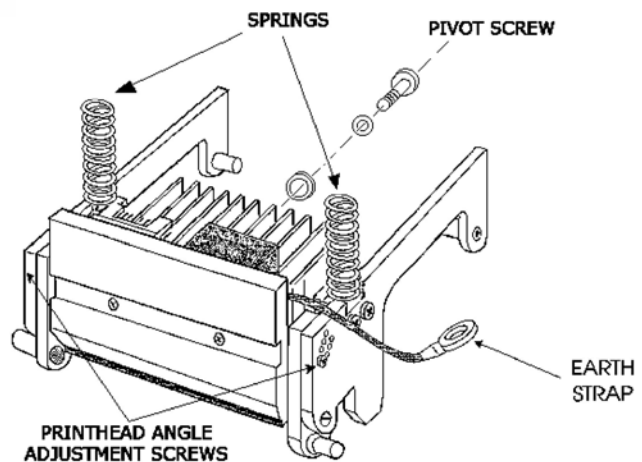
- (4) If a head bar is fitted, remove the securing screw at each end and lift away the head bar. This should leave the earthing strap loose at the right hand side of the chassis cover.

If no head bar is fitted, disconnect the earthing strap from the retaining screw at the left hand side of the printhead assembly

- (5) Disengage the two lugs at the ends of the two nylon side brackets by spreading apart the legs of the nylon brackets until the lugs just clear the chassis cover, swing them forwards and allow them to rest against the leading edge of the chassis cover.

N.B. Before removing the printhead assembly completely from the printer, take careful note of how the two springs are attached at the rear and each side of the assembly.

- (6) Using both hands, hold the printhead assembly at each side by the nylon brackets, and move it upwards. Note : as the assembly disengages from the chassis cover, the two springs will push it forwards and care must be taken not to lose the springs as the printhead is lifted clear.



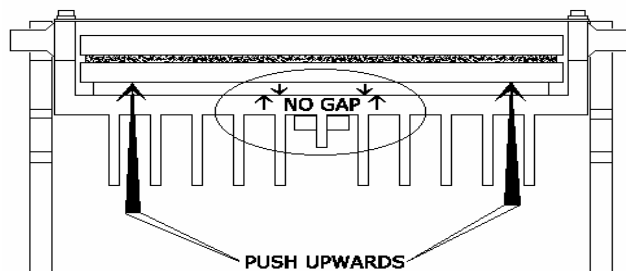
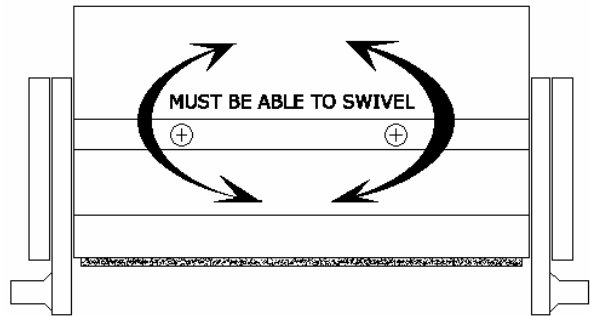
- (7) Place the printhead assembly on a bench with the printhead and its labels at the bottom. Undo and remove the printhead pivot screw (see diagram) and its two washers.

- (8) Slide the printhead backwards (plugs first) out of the heatsink.

3. Fitting the new printhead to the heatsink assembly (Magicard Dealers Only)

CAUTION - The following procedures involve contact with the new printhead, all precautions for handling Electrostatic Sensitive Devices should be followed at all times, including the use of a grounded wrist strap. Furthermore great care must be taken not to touch or damage the printing elements of the printhead.

- (1) Ensure that the brass backing plate attached to new printhead has a very thin, evenly spread film of graphite grease over its surface.
- (2) Apply a very small amount of Loctite 242 Threadlocker to the hole in the brass backing plate into which the printhead pivot screw will shortly be inserted.
- (3) With the heatsink still in position on the bench, slide in the new printhead until the two pivot screw holes are aligned and insert the pivot screw with its washers (thin crinkly washer closest to the head of the screw).
- (4) Great care must now be taken to ensure that this pivot screw is not over tightened - it must be set loosely enough such that the printhead can swivel freely about the axis of the screw (see diagram right) but not so loose that, with a little pressure, any gap can be made between heatsink, and the printhead with its backing plate (see diagram below).

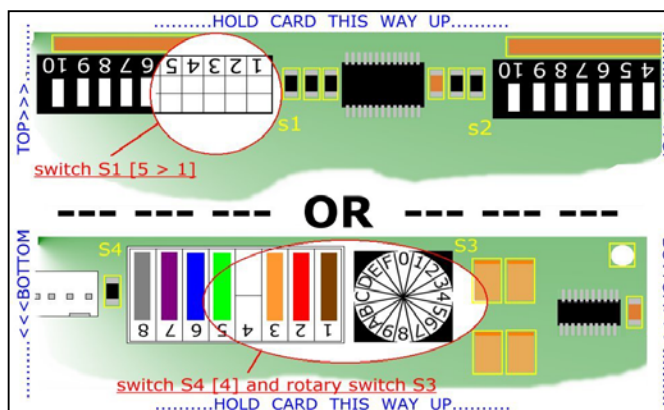


4. Fitting the new printhead assembly into the printer

- (1) Offer up the printhead assembly to its position in the chassis cover ensuring that the earthing strap is routed to outside of the chassis cover and, whilst holding in position, ensure that the ends of each spring are correctly located on the lugs on the chassis cover. Compress the springs by pushing the printhead assembly backwards and downwards against the chassis cover, and the printhead assembly should slot into place.
- (2) Now engage the two lugs at the bottom of the printhead assembly nylon side brackets by bending them outwards slightly and swinging them backwards until the lugs locate in the holes in the chassis cover.

- (3) Check that the springs at the back of the printhead assembly are neatly compressed and are not bulging outwards or inwards. If they are bulging the assembly will have to be removed and refitted again until they remain neatly compressed.
 - (4) If a head bar was fitted, refit it with its two securing screws ensuring that the left hand screw is also fitted through the terminal of the printhead earthing strap (Loctite 222 threadlocker should be used on these screws). Align the terminal downwards and in parallel with the leading edge of the chassis cover.
- If no head bar was fitted, ensure that the printhead earthing strap is connected to its' original securing point
- (5) Reconnect the two cables at the rear of the printhead ensuring that the locking arms of the grey ribbon cable connector are fully engaged.
 - (6) Referring to the rear of the Test Card which was supplied with your new printhead, set the 'density hex value' as indicated on the rear of the card.

N.B. There are two different diagrams on the rear of the card (see right), compare the circuit board in your printer against the two diagrams and decide which diagram is relevant to your printer. Then change the settings on your printer to match those marked on the diagram on your card (in the high-lighted area). Do not change any of the unmarked switch positions.



5. Refitting the cover

Refitting of the case is the reverse of removal.

Ensure the printer interior is free of debris or particles.

Take care not to trap the display cable as the top cover is lowered into position.

6. Setting up your new thermal printhead

- (1) Load the card cassette with cards and refit into the printer.
On Flip models ensure that UR8 Dye-Film is fitted.
On all other models fit UR1 Dye-Film.
- (2) Reconnect the mains supply and switch on the printer.
- (3) After the printer has finished its initialisation sequence (all lights have stopped flashing and the printer is silent), press the internal test button at the rear of the printer (approx 1cm above the Centronics port). After a short delay the printer will start to print a test image.

(4) The printhead angle has been factory set. In order to ensure that it is still correct, compare the test card with the images on the back page of this document.

N.B. If your test card shows a completely different test image from those on the back page, you will need to download the correct test image from the Ultra website at www.ultra.co.uk/support . This image can then be printed from any paint package on your PC.

(5) *If the printhead angle requires adjustment take note of the current position of the printhead angle adjustment screws (at the upper rear corner on each nylon side bracket).*

NOTE : There are now two different types of nylon side brackets – one with 7 adjustment holes and one with 9 adjustment holes (see diagrams below).

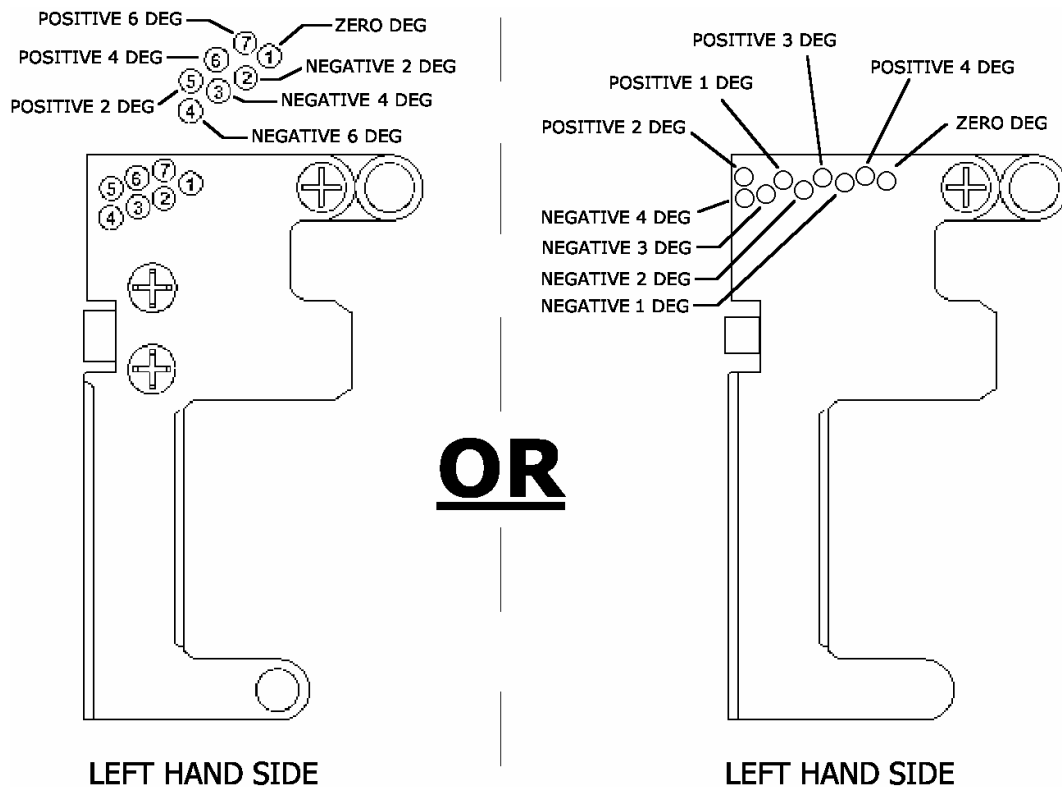
(6) *With reference to the relevant diagram (below) and the diagram on the rear page, decide which of the adjustment holes that the screws need to be moved to.*

(7) *Remove both printhead angle adjustment screws and raise or lower the rear of the printhead in order to align the required hole in the nylon bracket with the inner hole of the brass heatsink, and fit and tighten the two printhead adjustment screws.*

*NOTE : If a printhead angle adjustment screw is moved to a different hole then the other screw **must** be moved to the corresponding hole on the other side of the printhead assembly.*

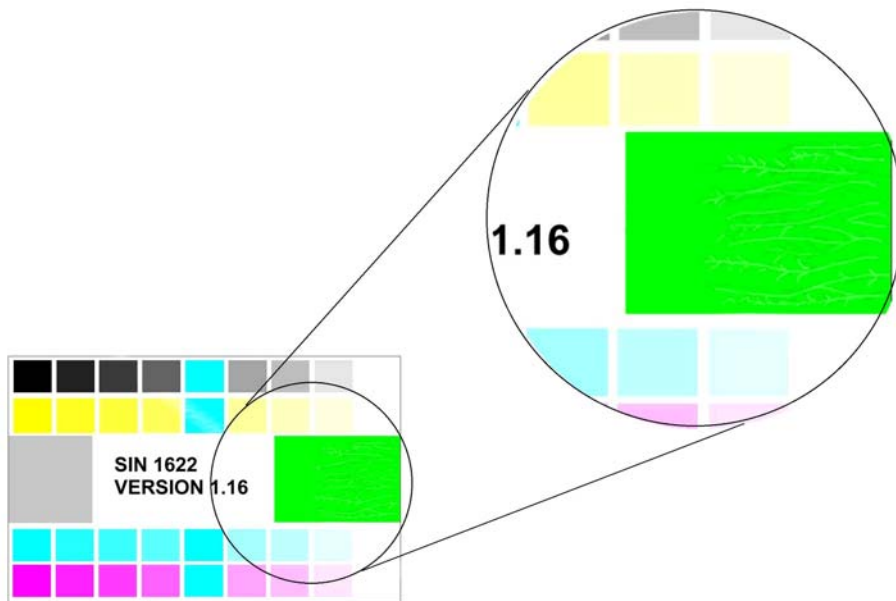
(8) *Steps (3) to (7) should be repeated until the optimum printhead angle is obtained.*

TWO TYPES OF NYLON SIDE BRACKETS



7. And finally.....

If your new thermal printhead fails to produce a good test image after following the above steps then please contact your supplier.



Too Positive

Dark patches stressing out from the rear edge of the green square (watermarking). These patches have many jagged edges. Plus possibly a dark patch at the front of the grey square,.

SOLUTION: Decrease head angle by 1 or 2 degrees.



Correct Head Angle

Uniform density across the whole of the grey square, with no marks or defects in the green square.

Too Negative

Front or most of the grey square is pale and washed out. Density can suddenly increase in the last third of the square.

SOLUTION: Increase head angle by 1 or 2 degrees.

